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(71)Applicant : LEDERLE JAPAN LTD
(72)Inventor : KITAMURA MASATAKA
TAKEI KEIJI

(54) INJECTION FOR SUSTAINED RELEASE LOCAL ANESTHESIA

(57)Abstract:
PURPOSE: To obtain an injection for sustained release local anesthesia capable of maintaining a nerve block for a long period of time and continuing treating effect, containing a local anesthetics on a carrier decomposable in an organism.
CONSTITUTION: A polymer compound is used as a carrier decomposable in an organism and a local anesthetics such as lidocaine is dissolved or dispersed into the carrier to prepare an infection. One or more selected from a natural polymer compound (e.g. collagen) and a synthetic polymer compound (e.g. polylactic acid) which are gradually decomposed in an organism, metabolized, have low toxicity and can be administered in an organism are used as the carrier decomposable in an organism. For example, when the natural polymer compound is used as the carrier, a local anesthetics, preferably an acid addition salt is dissolved or uniformly dispersed in an aqueous solution containing the polymer compound, mixed with a conventional component such as a thickening agent and a stabilizer and pharmaceutically manufactured by a filtration sterilization method. The concentration of the natural polymer compound is 0.1-10wt.% and that of the local anesthetics is 0.1-30wt.%. A dose is 1-10ml.

line-like, and a penetrated holes can be produced by applying the force so that the cut is opened.

[Claim 13] The cultured skin according to claim 6, 7, 8, 9, 10, 11, or 12, wherein the penetrated cut is at least partially provided in a 2.5cmx2.5cm square in the base material for cultured skin, and the penetrated cut which exceeds length of 4cm in total for a 1cmx1cm square is not included.

[Claim 14] A manufacturing method of cultured skin, comprising a) providing the penetrated cuts with the base material for cultured skin which comprises collagen sponge or a collagen sheet, and b) carrying out seeding culture of the fibroblast of the skin origin at least at one side of the base material with the cuts closed.

[Claim 15] A manufacturing method of cultured skin, comprising a) providing the penetrated cuts with the base material for cultured skin which comprises collagen sponge or a collagen sheet, and b) carrying out seeding culture of the epidermal cell at one side of the base material with the cuts closed.

[Claim 16] A manufacturing method of cultured skin, comprising a) providing the penetrated cuts with the base material for cultured skin which comprises collagen sponge or a collagen sheet, and b) carrying out seeding culture of the fibroblast of the skin origin at least at one side of this base material, and carrying out seeding culture of the epidermal cell at one side of the base material with the cuts closed.

[Claim 17] The manufacturing method according to claim 14, 15, or 16, wherein collagen is atelocollagen.

[Claim 18] The manufacturing method according to claim 14, 15, 16, or 17, wherein the penetrated cuts are provided regularly.

[Claim 19] The manufacturing method according to claim 14, 15, 16, 17, or 18, wherein the penetrated cuts were provided in the one direction in the shape of a straight line, and penetrated holes can be produced by applying the force so that cut is opened.

[Claim 20] The manufacturing method according to claim 14, 15, 16, 17, 18, or 19, wherein the penetrated cut is at least partially provided in a 2.5cmx2.5cm square in the base material for cultured skin, and the cut which exceeds length of 4cm in total for a 1cmx1cm square is not included.

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SUSTAINED RELEASE INJECTION FOR LOCAL ANESTHESIA

Abstract:

PURPOSE: To provide a sustained-release injection for local anesthesia capable of maintaining a nerve block for a long period of time by sustaining the release of local anesthetic and keeping a treating effect.

CONSTITUTION: A sustained-release injection for local anesthesia characterized by containing a local anesthetics such as lidocaine

hydrochloride in a biodegradable carrier.

[Claim(s)]
[Claim 1] A sustained-release injection for local anesthesia, characterized by containing a local anesthetic in a biodegradable carrier.
[Claim 2] The sustained-release injection for local anesthesia according to claim 1, wherein the local anesthetic is any of cocaine, ethyl aminobenzoate, procaine, a tetracaine, oxybuprocaine, dibucaine, lidocaine, mepivacaine, oxethazaine or acid addition salts thereof.
[Claim 3] The sustained-release injection for local anesthesia according to claim 1, wherein the local anesthetic is lidocaine or its hydrochloride.
[Claim 4] The sustained-release injection for local anesthesia according to claim 1, wherein the carrier is a mixture of one or two or more selected from a collagen, gelatin, a fibrinogen, a fibrin, polylactic acid, polyglycolic acid, and a copolymer of polylactic acid and polyglycolic acid.

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METHOD FOR EVALUATING TOXICITY USING CULTURED CELL

Abstract:
PROBLEM TO BE SOLVED: To provide a method for simply evaluating toxicity or safety of subject substances, e.g. chemicals, cosmetics, detergents, etc., without carrying out a toxicity evaluation for the subject substances at many concentration points.
SOLUTION: A toxicity evaluation method, characterized by that an animal cultured cell is embedded, and a cultured collagen gel culture is processed for an effective time with a subject substance, whereby an intercellular enzyme released from the subject substance to the culture is measured with time.

[Claim(s)]
[Claim 1] A toxic evaluation method characterized by carrying out embedding of the animal culture cells, and measuring the intracellular enzyme released into the culture from the subject substance with time, by processing a cultured collagen gel culture with a subject substance for an effective time.
[Claim 2] The toxic evaluation method according to claim 1, wherein an animal culture cell is human fibrocyte.
[Claim 3] The toxic evaluation method according to claim 1, wherein the intracellular enzyme released from a subject substance into a culture is lactate dehydrogenase.
[Claim 4] The toxic evaluation reagent, wherein the animal culture cells are enbedded, and the cultured collagen gel culture, culture medium, and intracellular enzyme measurement reagent are contained.